

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Serial Number: 10/607,830

Filing Date: June 28, 2003

Title: SYSTEMS AND METHODS FOR NETWORK ADDRESS FAILOVER

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Dkt: 1370.041US1**IN THE CLAIMS**

Please cancel claim 22 and amend the claims as follows:

1. (Original) A method for providing failover for a network address in an application gateway device having a first network interface and at least a second network interface, the method comprising:
 - receiving a set of configuration data for the application gateway device, the configuration data including a first network address for the first network interface and a second network address for the second network interface;
 - detecting a failure in the first network interface; and
 - analyzing the configuration data to determine if the first network address can be used on the second network interface; and if so, moving the first network address to the second network interface.
2. (Original) The method of claim 1, wherein the network address is an IP (Internet Protocol) address.
3. (Original) The method of claim 2, further comprising determining if the second network interface will support an additional MAC (Media Access Control) address to be associated with the first IP address.
4. (Original) The method of claim 1, wherein analyzing the configuration data includes determining if the first network address and the second network address are on the same network.
5. (Original) The method of claim 1, wherein analyzing the configuration data includes determining if the first network address and the second network address are on the same subnet.

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6. (Original) The method of claim 1, further comprising determining if the second network interface is capable of adding the first network address.
7. (Original) The method of claim 1, further comprising issuing a gratuitous ARP (Address Resolution Protocol) packet.
8. (Original) The method of claim 1, further comprising determining if another application gateway device on the network is configured to use the first network address.
9. (Original) The method of claim 1, further comprising determining if the second network interface can support a VLAN (Virtual Local Area Network) associated with the first network address.
10. (Original) The method of claim 1, wherein the network interface is an Ethernet interface.
11. (Original) The method of claim 10, wherein moving the first network address to the second network interface comprises:
 - removing the network address from the first interface;
 - removing a MAC address associated with the network address from a static routing table associated with the first interface;
 - moving the network address and the MAC address to the second network interface; and
 - reinstalling the static routing table on the second network interface.
12. (Original) The method of claim 10, further comprising:
 - removing at least one ARP entry for at least one host on a subnet associated with the first network address.
13. (Original) The method of claim 10, further comprising flushing cached routes for TCP, UDP and IP protocols.

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14. (Original) The method of claim 10, further comprising issuing a gratuitous ARP packet.
15. (Original) The method of claim 1, wherein analyzing the configuration includes determining if the network address is in use by another application gateway device on a network communicatively coupled to the first and second network interfaces.
16. (Original) An application gateway device comprising:
a processor;
a memory;
an operating system executed by the process from the memory; and
a first network interface having a first network address and a second network interface having a second network address;
wherein the operating system is operable to detect the failure of the first network interface and to analyze a set of configuration data to determine if the first network address can be used on the second network interface; and if so, moving the first network address to the second network interface.
17. (Original) The application gateway device of claim 16, wherein the network interface is an Ethernet interface.
18. (Original) The application gateway device of claim 16, wherein the network address is an IP address.
19. (Original) The application gateway device of claim 16, wherein the operating system is further operable to determine if the second network interface will support an additional MAC (Media Access Control) address to be associated with the first IP address.
20. (Original) The application gateway device of claim 16, wherein the operating system is further operable to determine if the second network interface is capable of adding the first network address.

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21. (Original) The application gateway device of claim 16, wherein the operating system is further operable to determine if another application gateway device on the network is configured to use the first network address.

22. (Canceled)

23. (Original) A computer-readable medium having computer executable instructions for performing a method for providing failover for a network address in an application gateway device having a first network interface and at least a second network interface, the method comprising:

- receiving a set of configuration data for the application gateway device, the configuration data including a first network address for the first network interface and a second network address for the second network interface;

- detecting a failure in the first network interface; and

- analyzing the configuration data to determine if the first network address can be used on the second network interface; and if so, moving the first network address to the second network interface.

24. (Original) The computer-readable medium of claim 23, wherein the network address is an IP (Internet Protocol) address.

25. (Original) The computer-readable medium of claim 24, wherein the method further comprises determining if the second network interface will support an additional MAC (Media Access Control) address to be associated with the first IP address.

26. (Original) The computer-readable medium of claim 23, wherein analyzing the configuration data includes determining if the first network address and the second network address are on the same network.

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27. (Original) The computer-readable medium of claim 23, wherein analyzing the configuration data includes determining if the first network address and the second network address are on the same subnet.
28. (Original) The computer-readable medium of claim 23, wherein the method further comprises determining if the second network interface is capable of adding the first network address.
29. (Original) The computer-readable medium of claim 23, wherein the method further comprises issuing a gratuitous ARP (Address Resolution Protocol) packet.
30. (Original) The computer-readable medium of claim 23, wherein the method further comprises determining if another application gateway device on the network is configured to use the first network address.
31. (Original) The computer-readable medium of claim 23, wherein the method further comprises determining if the second network interface can support a VLAN (Virtual Local Area Network) associated with the first network address.
32. (Original) The computer-readable medium of claim 23, wherein the network interface is an Ethernet interface.
33. (Original) The computer-readable medium of claim 32, wherein moving the first network address to the second network interface comprises:
- removing the network address from the first interface;
 - removing a MAC address associated with the network address from a static routing table associated with the first interface;
 - moving the network address and the MAC address to the second network interface; and
 - reinstalling the static routing table on the second network interface.

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34. (Original) The computer-readable medium of claim 32, wherein the method further comprises removing at least one ARP entry for at least one host on a subnet associated with the first network address.
35. (Original) The computer-readable medium of claim 32, wherein the method further comprises flushing cached routes for TCP, UDP and IP protocols.
36. (Original) The computer-readable medium of claim 32, wherein the method further comprises issuing a gratuitous ARP packet.
37. (Original) The computer-readable medium of claim 32, wherein analyzing the configuration includes determining if the network address is in use by another application gateway device on a network communicatively coupled to the first and second network interfaces.
38. (Original) A system for providing failover for a network address in an application gateway device having a first network interface and at least a second network interface, the system comprising:
- means for receiving a set of configuration data for the application gateway device, the configuration data including a first network address for the first network interface and a second network address for the second network interface;
 - means for detecting a failure in the first network interface; and
 - means for analyzing the configuration data to determine if the first network address can be used on the second network interface; and if so, moving the first network address to the second network interface.
39. (Original) The system of claim 38, further comprising means for determining if the second network interface will support an additional MAC (Media Access Control) address to be associated with the first IP address.

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40. (Original) The system of claim 38, wherein the means for analyzing the configuration data determines if the first network address and the second network address are on the same network.

41. (Original) The system of claim 38, wherein the means for analyzing the configuration data determines if the first network address and the second network address are on the same subnet.

42. (Original) The system of claim 38, further comprising means for determining if the second network interface is capable of adding the first network address.